

NATIONAL TRANSPORTATIONS SAFETY BOARD
Office of Aviation Safety
Washington, DC 20594

SUMMARY OF AIRCRAFT EXAMINATION

-- CEN18FA266 --

A. ACCIDENT

Location: Alma, Colorado
Date: April 2, 2018
Time: Unknown
Aircraft: Cessna 210A N68640

B. PARTICIPANTS

Jennifer Rodi
Senior Air Safety Investigator
National Transportation Safety Board

John Childers
Aviation Safety Inspector
Federal Aviation Administration

Randy Kind
Aviation Safety Inspector
Federal Aviation Administration

Henry Soderlund
Senior Air Safety Investigator
Textron Aviation Inc.

Nicole Charnon
Senior Air Safety Investigator
Continental Motors

C. ACCIDENT SUMMARY

On April 2, 2018, a Cessna 210A airplane, N68640, crashed into mountainous terrain 5 miles west of Alma, Colorado. The airplane was substantially damaged. The pilot was fatally injured. Visual meteorological conditions prevailed at the time of the accident.

Summary of Aircraft Examination

The flight was conducted under the provisions of Title 14 *Code of Federal Regulations* Part 91 without a flight plan. The flight departed Erie Municipal Airport (KEIK) Erie, Colorado, about 0815, and was en route to Richmond Municipal Airport (KRIF) Richmond, Utah.

The airplane was initially reported missing and an ALNOT was subsequently issued on April 2, 2018, at 1702. The wreckage of the airplane was found by hikers on July 13, 2018.

D. AIRCRAFT INFORMATION

According to Federal Aviation Administration records, the airplane, a Cessna 210A (serial no. 21057627) was manufactured in 1960. The airplane was powered by a Continental IO-470-DCE engine (serial no. 900569-OH) rated at 260 horsepower at 2,625 rpm. The engine was equipped with a 2-blade McCauley propeller.

E. DESCRIPTION OF ACCIDENT SITE

The accident site was located in high, mountainous terrain, at an elevation of 12,700 ft msl. The rocky terrain was vegetated with short grass and wildflowers. A set of powerlines, running east/west, was located about 100 ft south of the main wreckage.

F. DETAILS OF AIRCRAFT WRECKAGE

The main wreckage included the engine, both wings, the fuselage, and empennage. The wreckage came to rest on its left side and the nose of the airplane was oriented on a heading of 270°.

The initial impact point was located about 33 ft west of the main wreckage. The initial impact point included fragmented plexi/windscreen. Debris extended from the initial impact point, east, to the main wreckage and included the portions of the left and right aileron, engine components, one propeller blade, and fragmented and torn metal from the left wing.

Landing light reflector fragments and a left-wing inspection panel were located to the north of the initial impact point. The right main landing gear separated and was located 28 ft south of the main wreckage. The left main landing gear and nose landing gear remained with the wreckage. Signatures were consistent with the landing gear being extended.

The fuselage included the cabin and instrument panel. Two seats separated from the wreckage and came to rest to the west of the main wreckage and were impact damaged. The instrument panel and engine control panel were impact damaged, fragmented, and did not provide any reliable readings.

Summary of Aircraft Examination

The engine separated from the fuselage and came to rest, inverted, on the inverted right wing. The engine was impact damaged and could not be functionally tested.

Both propeller blades separated from the engine. One blade was located in the debris field. The second blade was located 300 ft southeast of the main wreckage. Both blades displayed deep leading-edge gouges and leading edge twisting. The blade near the initial impact area had deep chordwise scrapes, with the tip torn away, and a large tear about midspan.

The right wing separated partially from the airplane but remained beneath the fuselage. The right aileron was impact damaged and partially separated. The outboard portion of the aileron separated entirely and was located in the debris field. The right flap remained attached and signatures were consistent with the flap being up or retracted. The leading edge exhibited accordion crushing.

The left wing remained partially attached to the fuselage. The inboard portion of the left aileron was impact damaged and partially separated. The outboard portion of the aileron separated and was located in the debris field. The left flap remained attached and signatures were consistent with the flap being up or retracted. The leading edge of the left wing exhibited accordion crushing along the entire span. The outboard portion of the wing was torn and bent up and aft. The left-wing fuel tank exhibited hydraulic along the leading edge of the wing.

The empennage included the horizontal stabilizer, vertical stabilizer, rudder, and elevator. The outboard portions of the elevators and stabilizer were impact damaged. The outboard tips of both elevators were located in the debris field. The rotating beacon separated but was adjacent to the empennage. The rudder and vertical stabilizer were bent slightly but otherwise unremarkable.

Impact damage precluded functional testing of the engine and related components. There was no insurance for the airplane and the wreckage was not recovered from the accident location. The examination of the airframe, engine, and related systems was limited due to terrain and elevation of the accident site.

G. SUMMARY OF AIRCRAFT EXAMINATIONS

One aileron cable was impact damaged at the door frame and exhibited broomstick fractures consistent with overload separation. The aileron cables were otherwise continuous from their bellcranks inboard to the firewall. The impact damage precluded a complete trace through the firewall to the cabin area. The rudder cables and elevator control cables were continuous from the controls inboard to the cabin.

The oil sump was deformed and displayed a puncture. The left-side cylinders were displaced aft from the crankcase. Cylinders no. 4 and 6 displayed cylinder head damage with their components found in the debris field. The turbochargers were impact separated from the exhaust system.

Summary of Aircraft Examination

Righting of the engine revealed the top of the crankcase was fractured and four of the six connecting rods were visible. Both magnetos were impact separated from their mounting pads. The fuel system components were impact damaged and the throttle valve was in the fully open position. The top spark plugs were removed from each of the cylinders. The center electrodes were impact displaced and all displayed a normal/worn condition when compared to a Champion Spark Plug chart.

The six cylinders were examined and documented with a lighted borescope. No preimpact anomalies were noted with the barrels, pistons, cylinder heads, valves, or valve seats. The cranks shaft, connecting rods, and camshaft were examined via borescope and through the crankcase fracture. All components were intact, lubricated, and no signatures of preaccident distress were observed. The fuel manifold valve screen was clear, and the diaphragm and plunger were intact.

Examination of the turbocharger impellers revealed no significant findings. Rotation of the impellers resulted in a coinciding rotation of the turbines. The magnetos were impact damaged. The magneto drives were rotated with an audible snap of the impulse coupling, but no spark was noted.

The vacuum pump was impact damaged and could be manually rotated by hand through 180°.